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ABSTRACT

This report discusses findings of a study that investigated the effectiveness of video self-modeling (VSM) for increasing request communication of children with autism. A single subject design using multiple baselines across subjects was used. Four participants (ages 4-6) with autism were taped in the home setting for the purpose of creating VSM training tapes and then observed in the school setting to monitor the generalization of requests. The VSM involved eliciting and videotaping request behaviors, editing the videotape to show only desired request behaviors, and having participants view the edited videos of themselves performing the desired request behaviors. During a 30-minute orchestrated play session, participants were allowed to choose from a range of board games, play dough, play with action figures, train play, and quiet time reading. The orchestrated play sessions were videotaped to provide video footage that could be edited to create training tapes. Following intervention, all four participants demonstrated stable baselines, variable accelerating trends during intervention, and stability during maintenance. Data show a positive change in participants' spontaneous requesting in preschool settings. Maintenance checks of participants 1 through 3 showed that the levels of spontaneous requests were stable after intervention. An appendix includes data charts. (Contains 34 references.) (CR)

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ED 469 547

Videotaped Self-Modeling as a Technique for Training Preschoolers with Autism in Social-Communicative Functioning

Pennsylvania State University

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VIDEOTAPED SELF-MODELING AS A TECHNIQUE FOR TRAINING PRESCHOOLERS WITH AUTISM IN SOCIAL-COMMUNICATIVE FUNCTIONING

(Student initiated grant number H324B000008 by Dr. John T. Neisworth and Barbara Yingling Wert of The Pennsylvania State University)

Executive Summary

The Project

The purpose of this study was to systematically observe and record information about the effectiveness of video self-modeling for increasing request communications of young children with autism. The study was organized in three stages to fulfill four objectives (goals). Stage one: gather subjects and information for development of videotape of young children with autism for baseline information and create video self-modeling tapes for training. Stage two: create protocols for training, develop training tapes, and collect data. Stage three: disseminate training information. The four objectives were:

Goal 1. To implement a video self-model (VSM) strategy for self-management instruction with young children with autism.

Goal 2. To measure the effectiveness of the VSM model as a method of self-management for young children with autism.

Goal 3. To improve social-communicative functioning of young children with autism in respect to peer interactions with typical classroom peers.

Goal 4. To develop instruction in the use of VSM for classroom and home settings.

All four goals for this study were accomplished. Only slight changes in methodology of the study (Goal 2) were used to accommodate the extreme differences in the young children with autism (participants) and their families chosen for the study.

Modification to the study only included change in the dependent measure; measurement of rate of requests made by participants rather than rate, duration, and topography was needed. Rate of requests was a valuable measure. Duration and topography were also examined but due to the varied nature of the capabilities of the four participants no comparisons could be made (i.e., no two participants had the same or even similar language levels or modes of responding). Comparison of duration and topography was irrelevant. Also, changing criterion was not used due to participant rapid increases in rate of requests; changing criterion became irrelevant because participants increased rapidly and continually. With these two exceptions, methodology was not altered. No other components of the study were altered.

Context

Autism is characterized as a complex interplay of cognitive, linguistic, behavioral, and social difficulties. The prevalence of the disorder is 5 to 6 in 1,000 children (Gillberg, 1999). Learning, communication and self-management differences specific to autism are a result of cognitive and/or social impairments (Fein, Pennington, Markowitz, Braverman, & Waterhouse, 1986) that are exhibited in social-communicative dysfunction, isolating individuals with autism from society. Social-communicative dysfunction is expressed through the difficulties that individuals with autism experience in requesting, responding, and protesting (e.g., refusing to participate) during interactions with other individuals. Interventions necessary to the development of independent functioning and reciprocal communication are needed in classrooms to nurture individuals with autism in much the same way the community influences (e.g., educates) typical members of society. Typically, members of society come under the control of a weekly paycheck, hourly bonus, and 2-week vacation. To date, most individuals with autism are not able to obtain status as "productive citizens" or "work force" membership

(e.g., able to support themselves, work, pay taxes, and function as an active member of the community). The development of self-management techniques will assist the individual with autism in learning skills necessary to become independent citizens (Hermelin, 1978). In addition, as noted in the following narrative, successful communication skills utilizing self-management techniques need to be initiated as early as possible for individuals with autism in preschool settings.

Self-management

Self-management is described as a feasible technique for encouraging independence in the classroom because it shifts the behavior management responsibility from the adult to the student (Dunlap, Dunlap, Koegel, & Koegel, 1991; Koegel & Koegel, 1990). Increased responsibility and functioning are, in fact, the means to independence.

Studies by Krantz and McClannahan (1993) explored self-management for classroom transitions and family activities utilizing photographic activity schedules with replication and extension of a study done by Pierce and Schreibman (1994) with elementary aged students with autism. Self-management support for children with developmental disabilities in elementary classrooms has been researched with students in the primary grades (Koegel, Harrower, & Koegel, 1999) with success, but will self-management work for preschoolers with autism?

Peer Proximity

The passage of PL 94-142, the Education for All Handicapped Children Act of 1975, PL 101-476, the Individuals with Disabilities Act of 1990 (IDEA), and the reauthorization of IDEA (1997), have sparked an interest in preschoolers with disabling conditions in Least Restrictive Environments. Physical proximity to typical peers, although encouraging, does not ensure the quality or quantity of interactions between

young children with autism and their classmates. Evidence is amassing to indicate that proximity exposure along with direct intervention such as modeling, peer training, coaching, prompting, and reinforcement significantly increases the number and duration of social interactions between students and therefore reinforces skills in social-communicative functioning (Handlan & Bloom, 1993).

Video Modeling

A relatively new genre of treatments that holds promise has focused on the use of videotaping. A preliminary study utilized video to teach vocabulary to a 5 year old with autism spectrum disorder (ASD). Results were positive (an increase of 250 words in six months) and are attributed to the following factors (a) many children with autism are uncomfortable with human interaction, (b) many children with autism are highly visual, (c) video is predictable and controllable, and (d) video allows for extraneous variables to be filtered out (Zihni & Zihni, 1998). This intervention offers insight into possible benefits of the use of video (Buggey, Toombs, Gardener, & Cervetti, 1999).

Researchers have found the most effective models are individuals close to the observing child's age and with similar characteristics of functioning levels only slightly above that of the observer, in other words the child's peers (Bandura, 1969; Thoresen & Hosford, 1973). Models with absolute mastery and no exhibition of anxiety are not as effective (Hosford & Mills, 1983).

Videotaped self-modeling (VSM), in which the observers are shown only their positive performance of a targeted behavior, is an effective treatment for a variety of behaviors, ages, and abilities including but not exclusive of social behaviors (Lonnecker, Brady, McPherson, & Hawkins, 1994), and language (Buggey, 1995a; Haarman & Greelis 1982). In a review of 150 studies using VSM (Dowrick, 1999), substantial gains were reported across all target behaviors both immediately following intervention and

after intervention was withdrawn. In spite of the apparent efficacy of VSM, there are only three references to its use in improving language with young children with autism (Buggey, Toombs, Gardener, & Cervetti, 1999; Charlop & Milstein, 1989; Sherer, Pierce, Paredes, Kisacky, Ingersoll, & Schreibman, 2001). As a potential to teach self-management skills, VSM holds great promise. This project sought to discover whether the use of video self-modeling was effective in increasing the social-communicative functioning of young children with autism.

The potential contribution to increase knowledge or understanding of educational problems, issues, or effective strategies. The value of this study holds immediate and long-range implications for the families of individuals with autism and future employment options for the individuals themselves. Television and VCRs are common in homes, easy to use, and therefore accessible to families, classrooms, and even employers (e.g., video as a training component for employment). Improved techniques in the use of video for modeling of appropriate behaviors and communicative functions, in particular, introduced at an early age, will enable young children with autism to build the basic skills necessary for employment. Challenging skills such as flexibility, personal contact, and appropriate communication abilities that are difficult for young people with autism could be the focus of attention at a much earlier age.

The potential contribution to the development and advancement of theory, knowledge, and practices in the field of study. The study of video modeling for young children with autism will work to advance the study of appropriate practices for the education of individuals with autism and introduce a new technological protocol for the use of video in the classroom. Not only should this project contribute to technology in the classroom, but may lead to further research into practices of applied behavioral analysis in the classroom. The knowledge we have of autism would indicate that individuals with autism

do, in fact, perceive the environment and potential interactions with the environment differently from others (Hermelin, 1978). Successful research in the area of video modeling may extend this arena or at the very least prompt further investigation.

Goal Accomplishment

All goals were accomplished during this study. Goals 1, 2, and 3 (i.e., to implement a VSM strategy, to measure the effectiveness of that VSM strategy, and to improve social-communicative functioning of young children with autism) are discussed in combination and Goal 4 is discussed separately in this section.

Goal 1, 2, and 3

Methods

A single subject design using multiple baselines across subjects was used for this research (Richards, Taylor, Ramasamy, & Richards, 1999). Four participants were used in this study. Rate of requesting was the dependent variable with VSM as the treatment or independent variable. Intervention was conducted in participants' homes to provide a natural setting and family support for the intervention.

Participants

Participants were taped in the home setting for the purpose of creating VSM training tapes and then observed in the school setting to monitor the generalization of requests. Participants were four preschool children ages 3 to 6 years with a diagnosis of autism, (DSM-IV-R, 1994). Participants had a variety of language capabilities as noted on IEPs, but participants use of requests was minimal or non-existent.

Participant 1 was a 5-1/2-year-old male, diagnosed with autism at the age of 3 yrs. Language skills were on target for his age although he still had difficulty making

spontaneous requests, answering "wh" questions, and using the pragmatics of social language.

Participant 2 was a 4-1/2-year-old male diagnosed with autism at the age of 2 years. Language skills were approximately one year behind chronological age. He also had difficulty making spontaneous requests, answering questions, and using the pragmatics of social language.

Participant 3 was a 4-year-old male diagnosed with autism at the age of 3 years. Language skills were at the preverbal level with only vocalizations and gestures used to communicate. He had difficulty making spontaneous requests verbally but was beginning to use a communication board.

Participant 4 was a 5-year-old male diagnosed with autism at the age of 3 years. Language skills were at the 2 to 3 year old level. He had difficulty making spontaneous requests, had limited vocabulary, and was just beginning to use two-word phrases.

Measures

Target behavior. Participant performance on the target behavior of spontaneous requesting was observed and measured by rate. "Spontaneous requesting" (SR) was operationalized as independently asking for an object, action, or for assistance. Rate of spontaneous requesting was measured, graphed, and analyzed for each participant.

Intervention. VSM involved (a) eliciting and videotaping request behaviors, (b) editing the videotape to show only desired request behaviors, and (c) having participants view the edited videos of themselves performing the desired request behaviors. Two methods for staging desired behaviors on videotape are (a) role-play or imitation of desirable requesting behaviors and (b) extended taping over time and editing for

exemplars of the target behavior. For this study, extended taping over time in orchestrated settings was used to obtain material for edited videotapes.

A general format for a 30-minute orchestrated play session was used in the home setting. Participants were allowed to choose toys or activities that were of interest. Participants chose from a range of board games (Candyland, Hi Ho Cherrio, Hungry Hippo, play dough play, play with action figures, train play [Thomas the Tank Engine sets, puzzle play]) and quiet time reading favorite storybooks. The orchestrated play sessions were videotaped to provide video footage that could be edited to create training tapes for intervention.

The format for orchestrated play used the following steps:

(a) the adult prompter asked the child to play (e.g., "Let's Play")

(b) the adult prompter asked the child to choose a toy or activity for play (e.g., "What would you like to play")

(c) the adult prompter began to set up the play activity

(d) the adult prompter withheld pieces of the play activity (materials) so that participants needed to request materials

(e) the adult prompter modeled request behaviors (e.g., "May I have some play dough?", or "May I have a game piece?")

(f) the adult prompter prompted the participants to ask for objects or ask for actions (e.g., "Now you say, "Give me play dough" or "B's turn/ my turn"").

Prompts were used continuously so that multiple examples of participant requesting would appear on the videotape.

The sessions were tape-recorded using a digital video camcorder balanced on a stationary tripod at least 6 ft from the play situation. Videos were edited on the computer using a digital editing program that was set up with enough memory to edit videotape and transfer it to VHS tape for participant use.

Procedure

Information was disseminated to recruit volunteer families for the study. Families were interviewed and consent forms were explained and signed. The investigator trained observers on the operational definition of spontaneous requesting and also to use event recording during observations of spontaneous request behaviors. Observers were considered fully trained when 100% agreement was reached by all observers on three 15-minute video samples of a child with autism.

Adult prompters, already in place with families, were then asked by the families to participate in individual training sessions with the investigator. Two orchestrated play training sessions, 30 minutes in length, were conducted. Orchestrated play sessions used an explicit instruction model with adults taking turns acting as the participant and as the prompter for the first two 30 minute sessions and as prompter for the last 30-minute session until they could elicit 10 request opportunities in each of the three 30-minute sessions. Prompters were trained to count opportunities. Prompters were considered fully trained when they could spontaneously replicate the orchestrated play model without direction with100% accuracy for all 10 request opportunities in each of the three sessions.

All participants were trained prior to the study using discrete trial drills in requesting, modeled after the Teach Me Language manual (Freeman & Dake, 1996). Participants were all able to comply with requests, when motivated, prior to beginning

the study. While they used spontaneous requests on a minimal basis, all participants needed constant prompting to make verbal and nonverbal requests. Baseline involved observing participants during 30-minute sessions where 10 opportunities for spontaneous requesting were orchestrated into the play scenario; probes were administered to determine baseline for each participant.

Next, participants were asked if they would help make a movie that they would star in and what they would like to play with for the movie. They were given a few choices that were conducive to the orchestrated play format. Parents had been asked to list toy and play choices for their children prior to the study. Videotaping began as adult prompters and children began orchestrated play sessions in their home settings.

Videotapes were then edited to delete adult prompting of requesting behavior as well as negative behaviors. The completed tapes were approximately 5 minutes in length. Edited tapes showed only requests that appeared unprompted and spontaneous by the participant (occasional requests by the adult were included, when appropriate to maintain turn taking and conversation with the participant). Edited tapes were then completed by adding an opening (i.e., "D's movie 1") and then copying the digital tape to VHS tapes for viewing on family video recorders/players. Training tapes were made available to the families for participant viewing.

Next, children were asked to watch their 5-minute "movie" one time each day for 5 consecutive days. Parents were asked to observe/videotape their children watching their videos to document that children were attending to the videos as well as to note any possible negative reactions to the videos by the children. Parents were instructed to stop the "movie" if they or the participant were uncomfortable with the "movie." No adverse

reactions were noted. Some "jiggling" movements on the part of the children were noted and judged by parents to be discomfort, but parents did not stop video viewing. The mild "discomfort" seemed to occur only during the first viewing of tapes.

Finally, participants were observed in the school setting during a variety of times during the week. Observations were tallied using event recording for spontaneous requests only. Classroom assistants, teachers, and parents were asked not to prompt during the intervention and maintenance phases of the study. Adults did not prompt during observations.

Interobserver agreements on spontaneous requesting behavior using event recording were assessed in 50% of baseline, 60% of VSM intervention, and 100% of maintenance phases of the study. The agreement formula used was the number of agreements (occurrence only) divided by the total of the number of agreements (occurrence only) plus the number of disagreements (occurrence only), and multiplied by 100%. The interobserver agreement for all phases of the study was 100%.

Results

The results of intervention using VSM for each of the 4 participants on spontaneous requesting (SR) behavior are presented in Figure 1. All 4 participants demonstrated stable baselines, variable accelerating trends during intervention, and stability during maintenance. The data presented show a positive change in participants' spontaneous requesting in preschool settings. Maintenance checks of participants 1 through 3 showed that the levels of spontaneous requests were stable after intervention. Participant 4 was not available for maintenance sessions.

At baseline, participant 1 engaged in a mean of .83 SRs with a range of 0 to 3 SRs over six observations. After VSM intervention (i.e., watching his edited videotape for 5 consecutive days), his spontaneous request behaviors demonstrated a variable but increasing trend with a mean of 10.2 SRs and a range of 5 to19 SRs over 14 observations. He made an absolute change of +15 SRs from baseline. He maintained a high rate of SRs through the maintenance phase with a mean of 23.6 SRs and a range of 23 to 25 SRs for three observations over the course of six weeks.

At baseline, participant 2 engaged in a mean of 2.7 SRs with a range of 0 to 5 SRs over 19 observations. After VSM intervention his SR behavior also demonstrated a variable but increasing trend with a mean of 17.5 SRs and a range of 11 to 26 SRs over 6 observations. He made an absolute change of +12 from baseline. He maintained a high frequency of SRs through the maintenance phase with a mean of 20.5 SRs and a range of 19 to 22 SRs for two observations over the course of four weeks.

At baseline, participant 3 engaged in a mean of 1 SR with a range of 0 to 4 SRs over 26 observations. After VSM intervention his SR behavior also demonstrated a variable but increasing trend with a mean of 12.6 SRs and a range of 7 to 23 SRs over 14 observations. He made an absolute change of +11 from baseline. He maintained a high rate of SRs through the maintenance phase with a rate of 21 SRs for 2 observations over the course of two weeks.

At baseline, participant 4 engaged in a mean of 1.2 SRs with a range of 0 to 5 SRs over 28 observations. After VSM intervention his SR behavior also demonstrated a variable but increasing trend with a mean of 13.2 SRs and a range of 2 to 27 SRs over 6

observations. He made an absolute change of +10 from baseline. He was unable to continue with the study through the maintenance phase.

In general, the results of this intervention show marked increases in SRs for each participant in preschool settings. Only participant 4, who was 3.5 years of age and was not interested in video viewing or seeing himself in a movie, demonstrated a delay in increased rate of SRs after the introduction of VSM. However, he still made increases in SRs during intervention. All other participants showed marked improvements using VSM, maintained positive results, and remained within gain ranges during maintenance for spontaneous requesting (see Figure 1).

Goal 4

Goal 4, to develop instruction in the use of VSM for classroom and home settings, was accomplished by the development of a powerpoint presentation which was used in during two conferences. The handouts for these conferences are attached. The presentation of information to instruct in the methodology of VSM use and the results of this research were presented at the National Division of Early Childhood (DEC) of the Council for Exceptional Children (CEC) conference in December of 2001, Boston, MA. A second presentation of VSM was made at the National CEC conference in April of 2002, New York City, NY. The audiences in both conferences were enthusiastic about the research and indicated that they would interested in more training, especially hands on training. This is a possibility for further research and study as equipment packets including cameras, software, and appropriate computers would be needed to continue training and further research on that training.

Implications

Results of the study indicated that VSM was effective in increasing the rate of spontaneous requests of the participants. This study also demonstrated generalization of the skill from home to school settings. Generalization was not intentionally programmed into the VSM tapes, but the skill evidenced in school settings, perhaps because the activities chosen for the VSM tapes were similar to activities in the school setting. It should be noted that the adult prompters who appeared with the participants in the VSM tapes did not see the participant children in school; thus, neither the VSM training settings nor the adult prompters were likely factors in generalization.

Several issues must be considered when viewing the results of the study. First, the participants were unique in that they had been previously trained in the target behavior but were only using it on a minimal basis in either home or school settings. The target behavior of spontaneous requesting was not a new skill in participants' repertoire. Second, 3 of the 4 participants liked to watch videotapes and agreed to participate in one, suggesting that the VSM intervention was highly motivating. Third, the age of the children may be a consideration in maintenance results and should be considered in future research. Previous studies (Buggey et al., 1999; Charlop & Milstein, 1989; and Krantz et al., 1993) all indicate little or no change in autistic participants who were 4 years old or younger. All three studies targeted and reported improvements in social-communication skills with the use of VSM. All three studies indicated increases in language skills using multiple baseline designs across participants. Although limited in number, these studies on the effectiveness of VSM have yielded positive results. Replication of this study, with preschoolers of varying ages and settings is necessary to determine if VSM is equally effective at different ages or stages of development.

None of the studies discussed, including this investigation, has separated the effects of VSM to generalize across different types of individuals in different settings. Future research might include an analysis of spontaneous requests to peers versus adults, as this information was not separated during observations. Because social-communication skill abilities can fluctuate depending on the other individuals in the setting, a more in depth study of peer vs. adult interactions should be considered.

This study brings to special education literature a discussion of the effectiveness of VSM as a technique for improving social communication skills in young children with autism. VSM appears to be an effective and rapid intervention for use with young children with ASD when training them to use spontaneous requests. Second, VSM appears to be effective in increasing spontaneous requesting in generalization settings. The research presented here, which must be replicated, suggests that there is value in using technology to create a self-model for learning, a model of how an individual should appear when behaving successfully.

Appendix

Figure 1. VSM Rate of Request Data

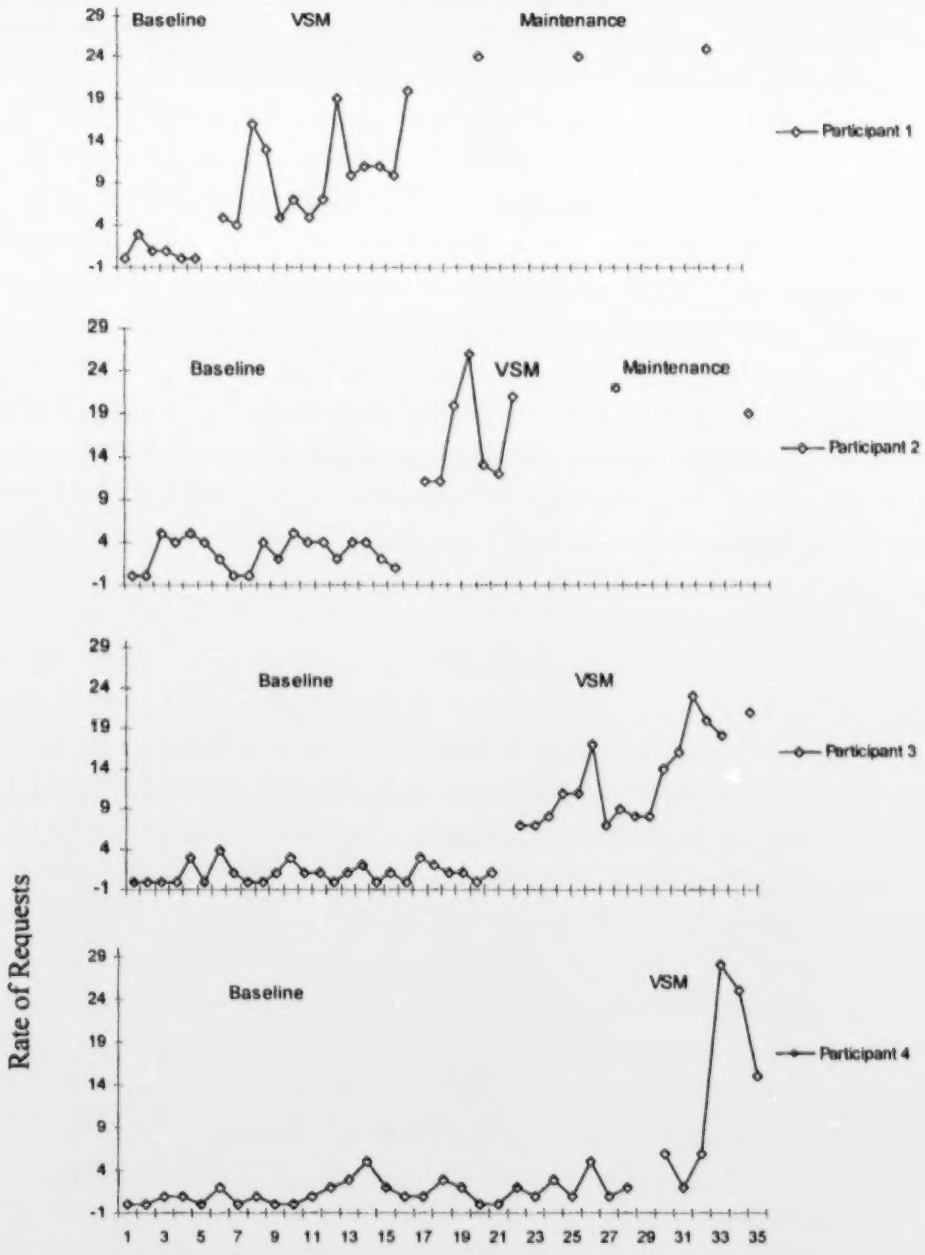

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Figure 2. Powerpoint Handouts for National Conferences

(See Attached handouts – Same handout was used for both conferences with changes only to cover page to indicate which conference presentation, Boston or NYC).

Video Self-Modeling
An intervention for young children with autism

Barbara Yingling Wert, doc. candidate
The Pennsylvania State University
National DEC of CEC Conference, Boston – 2001

This project was funded by U.S. Department of Education Grant No. H324B000008 titled "Videotaped Self-Modeling as a Techniques for Training Preschooler with Autism in Social-Communicative Functioning", 412-36 OE VIDEO (50ET0)

The following presentation and handouts are only a brief description of the study.
For further information about this Student Initiated Grant
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Video Self-Modeling

Combining Technology and Modeling to Help Young Children with Autism

In Making Spontaneous Requests

B. Yingling Wert
with technical assistance from
L. Bost & J. Stout

Video Self-Modeling (VSM)

Historical Background for VSM

- 1969 — Albert Bandura - Modeling
- 1970 — Creer & Miklich - Self Modeling
- 1978 — Dowrick - VSM
- 1981 — Hosford - Self-as-Models

VSM use with language and young children

- 1995 — Buggey - VSM with language
- 1996 — Hepting & Goldstein - VSM with request behaviors & young children

(These are just a few of the over 150 studies using self-modeling)

Foundations of VSM

- Modeling provides a demonstration of how to do something.
- Models that are highly valued are likely to be motivating; likely to gain and maintain attention (Hosford, 1981; Kazdin, 1975)
- Models with characteristics similar to the child are most effective (Bandura, 1969; Creer & Miklich, 1970; Hosford, 1981)
  - Characteristics such as sex, age, and ability

VSM

- VSM is an electronic form of modeling that allows individuals to observe their own positive behavior (self-as-model, Hosford, 1981).
- Two forms
  - Feedback (see positive and negative behaviors)
  - Feed forward (see only positive behaviors)

VSM with Young Children with Autism Spectrum Disorders (ASD)

- Young Children with ASD:
  - Uncomfortable with human interaction
  - Often have difficulty with social-communication (such as making spontaneous requests)
  - Many children are strong visual learners (Quill & Quill, 1998)
- Interventions with ASD:
  - Tradition methods are effective but -
    - Require large amounts of time
    - Use extensive prompting which can lead to prompt dependency
    - Can be costly
- VSM with ASD:
  - Video is predictable and controllable
  - Video allows for filtering of extraneous stimuli
  - Considers the level of the learner (self-as-model)

VSM Procedure

- Interview families
- Choose target behavior
- Desensitize child to camera and taping
- Observe child (baseline information)
- Videotape child during structured play settings
- Edit video tape (to show only target behavior and get rid of prompts,etc.)
- Allow child to view edited tape
- Observe and chart child's progress is a variety of settings.
- Closing interview with parents

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VSM as a Technique for Training Preschoolers with ASD in Social-Communicative Functioning

- Purpose of Study- To test effectiveness of VSM for improving requesting behaviors in young children with ASD. (e.g., increasing frequency of requesting)
- Requesting - asking for information, or for something to be given or done without assistance (e.g., prompting).

VSM for use with ASD Social-Communicative Functioning

- Participants: 4 children diagnosed with ASD, ages 3.5 to 6 yrs.
- Settings: Training - Home
  - Observations - School
- Measures:
  - Dependent variable - rate of spontaneous requesting
  - Independent variable - VSM

VSM for use with ASD Social-Communicative Functioning

- Method: Multiple Baseline across participants
- Results:
  - Improvement in the frequency of spontaneous request behaviors for all participants
  - Maintenance of spontaneous request behaviors in 3 of the 4 subjects that were available for maintenance checks

VSM for use with ASD Social-Communicative Functioning

- Limitations:
  - Spontaneous requests were measured whether made to adults or peers
  - Prompting used in training may have had an influence
  - Generalization from training setting to observation setting may have been influenced by types of play activities and materials acting as multiple exemplars in both settings
  - Age of child and interest in watching video, in general, may have had influence on results
  - No data was taken in the child's observation setting to determine an appropriate amount of spontaneous requests for typical peers. This made it difficult to determine if results, although very good, could match levels of spontaneous requests of peers.

VSM for use with ASD Social-Communicative Functioning

- Further research is needed
  - To determine the influence of the intervention on requests to adults vs. requests to peers.
  - To determine the influence of verbal prompting and VSM separately and in combination.
  - To determine the influence of the types of toys and activities in the training setting on generalization.
  - To determine the youngest age for which this procedure may be effective.
  - To determine appropriate criterion levels of spontaneous requests to see if improvement in this area using VSM was sufficient to assist young children with ASD in general education settings.

VSM for use with ASD Social-Communicative Functioning

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Abstract

A relatively new genre of treatments for young children with autism that holds promise has focused on the use of videotaped self-modeling to teach new skills. This treatment has proven successful for individuals in a wide variety of situations from diet control to paraprofessional training in education with minimal references to use with persons with autism (Dowrick, 1999). The effectiveness of this technique was explored in this study for training young children with autism in social-communicative functioning (e.g., spontaneous request behaviors) to promote learning and increase functioning in a variety of school, home and community settings.

Methods

Purpose:

The purpose of this study was to test the effectiveness of video self modeling (VSM) as a strategy for improving social-communicative functioning in young children with autism. Social-communicative functioning includes an ability to imitate or independently produce actions/verbalizations. Productions are measured in a number of categories such as behavioral regulation (requesting objects/actions, protesting), social interaction (greeting, calling, requesting social routine), and joint attention (commenting, questioning, providing information) along with rate and persistence of those interactions with others. It is the actions/verbalizations of requesting that were measured by rate in this study using VSM as the method of intervention.

Participants: 4 children diagnosed with autism, ages 3.5 to 6 yrs.

Settings: Training setting – Home
Observation setting – 3 Inclusive Preschool classrooms & 1 segregated preschool classroom

Measures:

Dependent Variable – Rate of Spontaneous Requests
Defined as: The number of times an individual asks for information or for something to be given or done without help.

Independent Variable – Viewing of Video Self Modeling Tapes

Interobserver Reliability: Two trained independent observers
Interobserver agreement on spontaneous requesting behaviors using event recording was assessed for 20% of baseline and 25% of intervention.

Baseline agreement = 100%
Intervention agreement = 98%

Method: Multiple Baselines across participants

Procedure:

1. Parents interviewed to gain permission, check for social validity of social-communicative functioning characteristics (use likert rating scale) and determine play preferences of child.
2. Desensitization of child to camera. (Investigator spent time with child running camera so that child videotaping would less obtrusive). Investigator ask child to participate in making a movie.
3. Baseline observations were made.
4. Structured play situations where set up so that child needed to ask for materials. Child chose from among a variety of activities which were determined to be play preferences of the specific child during parent interview.
5. Structured play settings were taped. Tape was left run for entire setting.
6. Ended sessions with a conversation (e.g., "this has been fun, can we do this again?") and thanked child for participating.
7. Edited video tape (to show only desired requesting behavior on part of child). Edited out any prompts or instructions that may have been used by adult or peer. Rearranged tape segments so that child is initiating requests.
8. Child viewed edited videotape 5 times prior to observational data taken in school setting.
9. Observed child in school setting.
10. Final parent interview to determine acceptability of study and procedure for future use of research materials.

Results

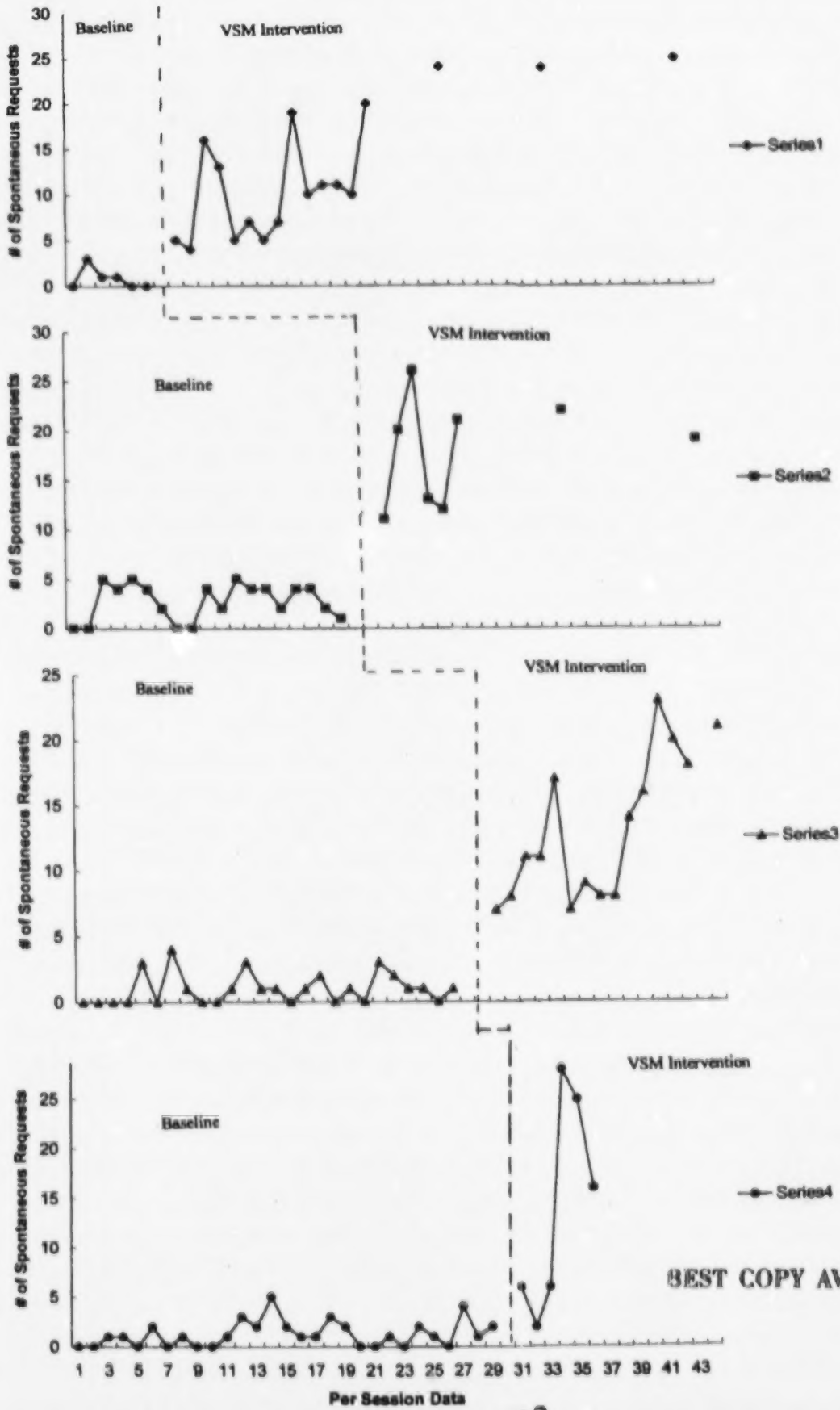
The results of intervention using VSM for each of the four participants on spontaneous requesting behavior are presented as series 1-4 in the Multiple Baseline Data Chart. All four participants demonstrated difficulty in making spontaneous requests in school and home settings prior to intervention. All participants were trained using discrete trial training in the use of requests and all participants demonstrated increased use of spontaneous requests in home and school settings after the introduction of the VSM intervention.

The data presented in the chart shows a positive change in participants ability to make spontaneous requests in preschool settings. All four participants demonstrated stable baselines. All participants also demonstrated variable accelerating trends.

Maintenance checks of participants 1 through 3 showed that the levels of spontaneous requests were stable after intervention. Participant 4 was not available for maintenance sessions.

In general the results of this intervention show a marked increase in the ability of each participant to make spontaneous requests in pre-school settings. Future research should include a breakdown of spontaneous requests to peers vs. adults. The age of the children may be a consideration in maintenance results and should also be considered in future research. Series 4 participant was 3.5 years of age and was not interested in video viewing or seeing himself in a movie. This may be due to his young age or simply be a personal preference which should be considered when using the VSM technique. All other participants were able to maintain positive results and remain within g gain ranges for spontaneous requests. Future studies should also research the number of spontaneous requests made by typical preschoolers of similar ages and settings to determine whether the increases for the current participants are significant for young children with autism.

Video Self Modeling - Multiple Baseline Data



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